

**RAILROAD SAFETY ADVISORY COMMITTEE (RSAC)**  
**RSAC Initiatives Update as of 9/13/00**

The **RSAC** is holding its fifteenth full Committee meeting on September 14, 2000. The following is a review of RSAC initiatives to date:

**Task 96-1: Revision of Freight Power Brake Regulations** - The 1992 Rail Safety Enforcement and Review Act of 1992 required FRA to revise the power brake regulations. FRA did complete the portion of the rule involving two-way end-of train devices (EOTs) and it became effective on July 1, 1997. FRA published a Notice of Proposed Rulemaking (NPRM) on September 16, 1994, and conducted six days of public hearings. Additional options were requested from passenger interests and freight interests. Passenger power brake provisions were included in the Passenger Equipment Standards NPRM published September 23, 1997, and a final rule is in preparation. Revision of the freight power brake regulations was tasked to RSAC on April 1, 1996. After a period of over a year of intense efforts, a consensus between railroad labor and management could not be reached on several contentious issues. FRA formally withdrew the freight power brake task at the June 24, 1997, RSAC meeting. FRA published an NPRM on September 9, 1998, reflective of what FRA has learned through the collaborative process. Public hearings were conducted on October 26, 1998, in Kansas City, Missouri, and on November 13, 1998, in Washington, DC. A technical conference was held in Walnut Creek, California, November 23-24, 1998. The final date for the submission of written comments was extended to March 1, 1999. A public meeting to discuss FRA's collection of inspection data was conducted on May 27, 1999. FRA is preparing the final rule. The rule must be cleared by the Office of Secretary and forwarded to the Office of Management in Budget for approval. Once that process has been completed the final rule will be published in the Federal Register.

**Task 96-2: Revision of Track Safety Standards** - The 1992 safety authorization act required FRA to issue revised track rules. FRA published an Advanced Notice of Proposed Rulemaking (ANPRM) on November 6, 1992, and conducted workshops during the period January-March 1993. The RSAC accepted the task of preparing an NPRM on April 2, 1996. In November 1996, the RSAC voted to recommend issuance of the NPRM and FRA published an NPRM on July 3, 1997. A public hearing was held on September 4, 1997, with comments due by December 22, 1997. **The final rule was published on June 22, 1998. The effective date of the rule was September 21, 1998.**

Although the subject of much discussion, the Track Safety Working Group could not reach consensus about how the revised Track Safety Standards should address GRMS technology. The RSAC therefore recommended that a small task group continue evaluating the possibility of developing GRMS standards for broader application within the industry. The task group drafted a standard providing for the use of this technology within the industry and FRA has prepared an amendment to the final track rule providing for the use of GRMS technology. A package containing the proposed GRMS amendment and the proposed Safety Standards for Roadway Maintenance Machines was prepared and sent to the Track Working Group for a mail ballot. Following the Track Working Group ballot, additional deliberations were conducted to resolve the remaining issues. Both the GRMS final rule amendment and the proposed Safety Standards for Roadway Maintenance Machines were forwarded to the RSAC for a mail ballot on July 24, 2000. Both documents were approved by the full RSAC in the mail ballot during August. FRA is preparing the final paperwork to publish the GMRS final rule amendment and Roadway Maintenance Machines NPRM in the Federal Register.

**Task 96-3: Railroad Communications** - FRA, in submitting a report to Congress on Railroad Communications and Train Control on July 13, 1994, noted the need to revise existing Federal standards for radio communications in concert with railroads and employee representatives. The RSAC accepted the task of preparing an NPRM, including consideration of communication capabilities required in railroad operations, on April 1, 1996. The RSAC voted to recommend

issuance of an NPRM. The NPRM was published on June 11, 1997. **A final rule was published on September 4, 1998, and became effective on January 2, 1999.**

**Task 96-4: Tourist, Excursion, Scenic and Historic Service** - The Swift Railroad Development Act of 1994 required FRA to submit a report to Congress regarding FRA's actions to recognize the unique factors associated with these generally small passenger operations that often utilize historic equipment. The report was submitted to the Congress on June 10, 1996. The RSAC authorized formation of a Working Group on Tourist and Historic Railroads on April 1, 1996, to promote the safe operation of tourist and historic rail operations. The Working Group monitored and assisted completion of the steam locomotive regulations task and will continue its oversight of task force activities, including the possible development of requirements for the training of steam locomotive operators and maintenance personnel. Planned future activities involve the review of other regulations, such as track safety, emergency preparedness, and passenger equipment safety standards for possible adaptation to the safety needs of tourist and historic railroads.

**Task 96-5: Revision of Steam-Powered Locomotive Inspection Standards** - A committee of steam locomotive experts from tourist and historic railroads have sought a partnership with FRA to revise the steam locomotive regulations. Revision of the regulations was tasked to the RSAC on July 24, 1996. The Tourist and Historic Railroads Working Group created a Steam Task Force to address this task. The full Committee voted to recommend issuance of an NPRM. The NPRM was published in the Federal Register on September 25, 1998. A public hearing was held on February 4, 1999. The Task Force's recommendations in response to the comments received were accepted by the Working Group and the full Committee voted to incorporate the recommendations in the final rule. **The final rule was published on November 17, 1999, and became effective January 18, 2000.**

**Task 96-6: Revision of Qualification and Certification of Locomotive Engineer Regulations** - The final rule for locomotive engineer certification became effective in 1991, but certain issues were left unresolved. Experience under the rule has also raised additional issues. An interim final rule amendment was published on October 12, 1995. The RSAC accepted a task to revise the regulations on October 31, 1996. The full Committee voted at the May 14, 1998, meeting to recommend issuance of the NPRM forwarded by the Working Group. An NPRM was published in the Federal Register on September 22, 1998. The Working Group has met to resolve issues presented in the public comments. At the January 28, 1999, meeting, the RSAC recommended issuance of a final rule with the Working Group modifications. **The final rule was published on November 8, 1999.**

**Task 97-7: Safety Standards for Roadway Maintenance Machines (On-Track Equipment)** - During deliberations of the Working Group on Track Safety Standards, the issue of proposing standards relating to the safety of persons riding or operating maintenance-of-way equipment was raised. On October 31, 1996, the RSAC accepted a task of drafting proposed rules for safety of this equipment. A Task Force was formed to address the issue, and the Task Force reached a consensus agreement in principle on what should be included in the proposed rule. At their last meeting, the Task Force identified several remaining issues to be resolved. In addition, the Task Force recognized the need to coordinate with the Locomotive Cab Conditions Working Group to ensure that standards for noise and air temperature (for enclosed cabs only) for new equipment employ a rationale that is reasonably consistent with the technical approach being employed for locomotive cabs. (Note: actual standards are expected to differ in important respects, recognizing the differences in the working conditions and functions involved.) The Task Force has since reached a consensus agreement on what should be included in the proposed rule. FRA has taken the work of the Task Force and drafted a proposed rule addressing Safety Standards for Roadway Maintenance Machines. A package containing the proposed GRMS amendment and the proposed Safety Standards for Roadway Maintenance Machines was prepared and sent to the Track Working Group for a mail ballot. Following additional deliberations to resolve the remaining issues, the Working Group approved both ballot items. Both the GRMS final rule amendment and the proposed Safety Standards for Roadway Maintenance Machines were then forwarded to the

full RSAC for a mail ballot on July 24, 2000. Both documents were approved by the full RSAC in the mail ballot during August. FRA is preparing the final paperwork to publish the GMRS final rule amendment and Roadway Maintenance Machines NPRM in the Federal Register.

**Task 96-8: Locomotive Crashworthiness and Working Conditions Planning Task** - The Rail Safety Enforcement and Review Act of 1992 required FRA to conduct a proceeding regarding locomotive crashworthiness and working conditions and issue regulations or submit a report. FRA conducted research, outreach, and a survey of locomotive conditions and finalized a report to the Congress entitled *Locomotive Crashworthiness & Working Conditions*, transmitted by letter of September 18, 1996. The report conveyed data and information developed by FRA, closed out those areas of investigation for which further action is not warranted, and defined issues that should be pursued further in concert with industry parties, either for voluntary or regulatory action. The RSAC accepted a planning task on October 31, 1996, to evaluate the need for action responsive to recommendations contained in the report. A Planning Group reviewed the report and grouped issues into categories, and prepared drafts of the task statements. FRA presented the task statements addressing locomotive crashworthiness and cab working conditions to the RSAC on June 24, 1997.

**Task 97-1: Locomotive Crashworthiness** - On June 24, 1997, the RSAC voted to accept a task addressing locomotive crashworthiness issues. The Working Group on Locomotive Crashworthiness established a Task Force on engineering issues that reviewed collision history and design options. The Working Group reviewed the results of research that was commissioned and is drafting performance-based standards for freight and passenger locomotives to present to the RSAC for consideration. The Working Group is also assisting in finalizing the collision data needed for the economic evaluation (cost-benefit analysis).

**Task 97-2: Locomotive Cab Working Conditions** - On June 24, 1997, the RSAC voted to accept a task addressing cab working conditions issues. The Working Group on Locomotive Cab Working Conditions established task forces on noise and temperature. The full Working Group met several times to develop recommendations for locomotive sanitation standards. A draft sanitation NPRM is under review by the Working Group on Cab Working Conditions and may be presented during the full RSAC on September 14, 2000. A Noise Task Force has assisted in identifying options for strengthening the occupational noise exposure standard, and the Cab Working Group will be meeting in October and November to complete the NPRM. The Cab Working Group has also considered issues related to cab temperature, and is expected to consider additional issues (such as vibration) in the future.

**Task 97-3: Revision of Event Recorder Requirements** - In issuing final rules for event recorders which became effective May 5, 1995, FRA noted the need to provide more refined technical standards. The National Transportation Safety Board (NTSB) noted the loss of data from event recorders in several accidents due to fire, water and mechanical damage. NTSB proposed performance standards and agreed to serve as co-chair for an industry/government working group that would define technical standards for next-generation railroad event recorders. FRA conducted a meeting of an informal working group comprised of railroad labor and management and co-chaired by NTSB on December 7, 1995, to consider development of technical standards. At the July 24-25, 1996, RSAC meeting, the Association of American Railroads (AAR) agreed to continue the inquiry and on November 1, 1996, reported the status of work on proposed industry standards to the RSAC. On March 5, 1997, the NTSB issued recommendations regarding testing and maintenance of event recorders as a result of finding in the investigation of an accident on February 1, 1996, at Cajon Pass, California. On March 24, 1997, the RSAC indicated its desire to receive a task to consider the NTSB recommendations with respect to crash survivability, testing and maintenance. A task was presented to, and accepted by, the RSAC on June 24, 1997. The Working Group on Event Recorders was formed and a Task Force established. The Working Group and Task Force have conducted meetings and a draft proposed rule is being reviewed.

**Tasks 97-4, 97-5 and 97-6: Positive Train Control (PTC) Systems** - On September 30, 1997, the RSAC accepted three tasks involving defining PTC functionalities, describing available technologies, evaluating costs and benefit of potential systems, and considering implementation opportunities and challenges, including demonstration and deployment. Accomplishments of the PTC Working Group to date include the following:

**Report to the Administrator / Report to the Congress:** The Swift Rail Development Act of 1994 required FRA to submit a status report on the implementation of positive train control as a follow-up to the July 1994 report entitled *Railroad Communications and Train Control*. The Data and Implementation Task Force of the PTC Working Group prepared a Report to the Administrator entitled *Implementation of Positive Train Control Systems* which was approved by the full committee on September 8, 1999. This RSAC report has been widely disseminated, and FRA has referred to its findings and recommendations in responses to questions from the Congress. FRA obtained clearance of a letter report to the Congress which encloses the RSAC PTC report, and that letter report was signed by the Administrator on May 17, 2000.

**Notice of Proposed Rulemaking for Performance Standards:** The Standards Task Force has been working intensively to prepare an NPRM on performance standards for processor-based signal and train control systems. The Task Force held a final meeting on the NPRM on June 28<sup>th</sup>, and the full PTC Working Group will consider and approve the NPRM on June 29<sup>th</sup>, with amendments. The Administrator has asked for early publication of this proposal, which will lay the groundwork for innovative train control technologies. The North American Joint PTC Project team has also asked that this work be expedited. The PTC NPRM will be voted on at the September 14, 2000 full RSAC meeting.

The working group has also established teams dealing with PTC-related operation rules and human factors issues, as well as a team assisting in the development of an Axiomatic Safety-Critical Assessment Process (ASCAP) designed to provide a risk assessment tool kit for use in applying new performance-based standards. The operating rules team completed their task in April 2000, and their work was approved by the PTC working group at its last meeting on June 29<sup>th</sup>.

The next meeting of the PTC Working Group will be held on November 9<sup>th</sup> to discuss reports from the Human Factors and ASCAP teams, and from the manager of the North American Joint PTC Project.

**Task 97-7: Definition of Reportable "Train Accident"** - FRA identified the need to comprehensively revise the regulations governing accident/incident reporting, which had not been revised since 1974. FRA issued an NPRM on August 19, 1994, and a final rule on May 30, 1996. Technical amendments were published on November 22, 1996, and the FRA Administrator signed final rule amendments on December 16, 1996. The final rule became effective on January 1, 1997. On June 24, 1997, the RSAC reviewed a request by an RSAC member to clarify the means used by railroads to estimate railroad property damage and improve the consistency of reporting. The RSAC accepted the task on September 30, 1997, limited to determination of damages qualifying an event as a reportable train accident. A Working Group was formed, held its initial meeting in February 1999, and has been conducting meetings to address this task. The Working Group has designed a survey form to collect specific data about damages to railroad equipment. The survey started on August 1, 2000 and will end January 31, 2001. The survey is voluntary; most of the large railroads and four passenger railroads are participating. A complete statistical analysis will be done at the conclusion of the survey to determine if a method can be used to calculate property damages.

**Task 00-1: Blue Signal Protection** - On 8/16/93, FRA published a final rule permitting one or more utility employees to associate themselves with a train crew for the purpose of performing normal operating functions that require employees to go on, under or between rolling stock, without use of blue signal protection (which is ordinarily appropriate for mechanical duties). During the proceeding it was noted that rules for locomotive engineers working alone were not clearly defined. FRA published a final rule amendment governing single engineers working alone on 3/1/95, but granted a requested suspension of the amendment on 6/9/95 pending development of additional facts. Since that time, additional blue signal issues have continued to emerge, including application of the requirements to contractors performing the subject functions on railroad property. On 10/31/96, the RSAC advised FRA that this project should not be proposed for early tasking, given conflicting demands on the resources of member organizations. RSAC accepted the task at the 1/28/00 full Committee meeting. A working group has been formed and will hold its first meeting on October 16-18, 2000 in Washington, DC.